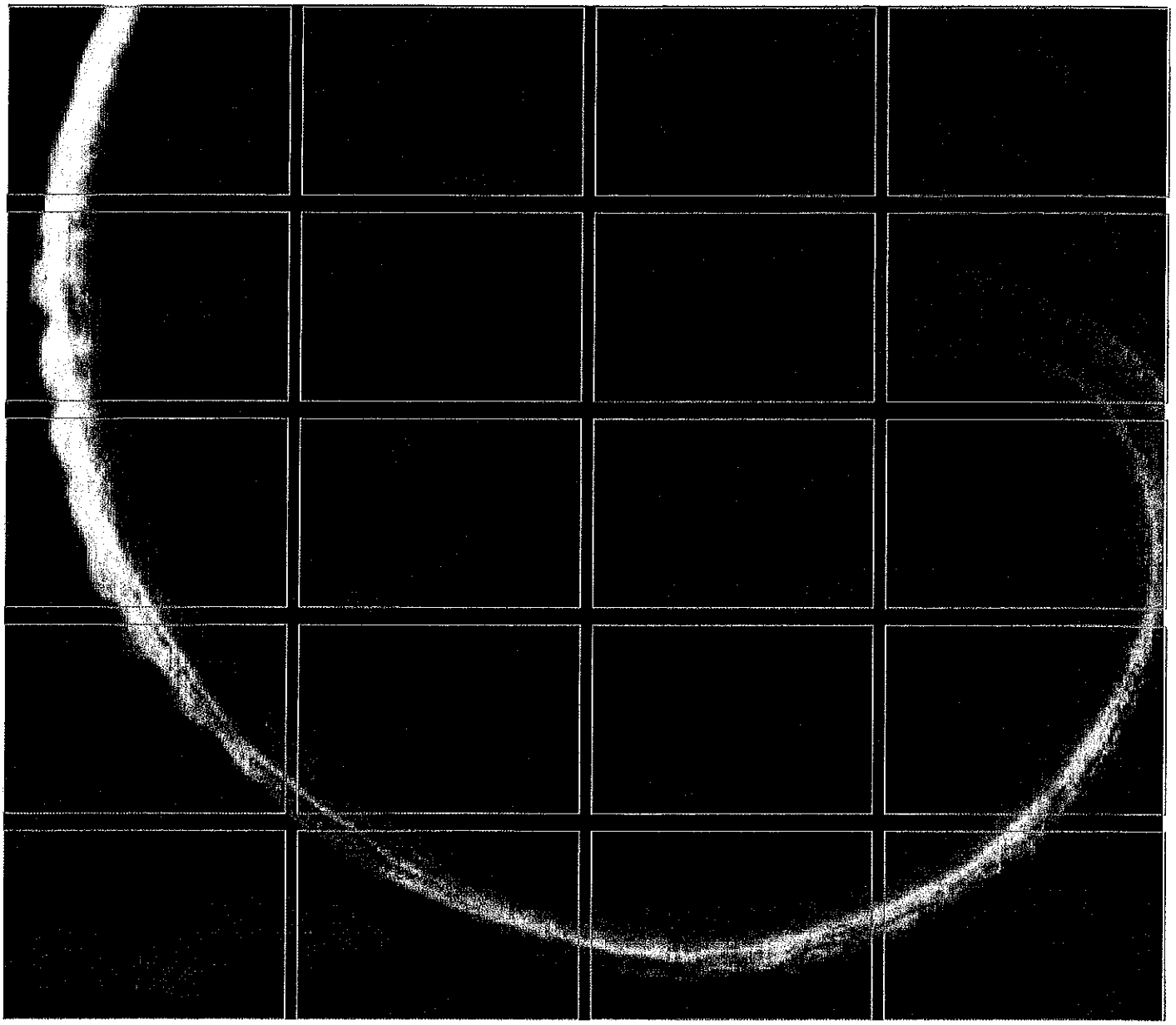

Permit to Construct

April 2018

Prepared By:
Environmental Resources Management, Inc.
180 Admiral Cochrane Drive, Suite 400
Annapolis, MD 21401

www.erm.com

Prepared for:
Joseph Smith & Sons, Inc.
2001 Kenilworth Avenue
Capitol Heights, MD 20743

ERM

The business of sustainability

AIR QUALITY PERMIT TO CONSTRUCT APPLICATION CHECKLIST

OWNER OF EQUIPMENT/PROCESS	
COMPANY NAME:	Joseph Smith & Sons, Inc.
COMPANY ADDRESS:	2001 Kenilworth Avenue, Capitol Heights, MD, 20743
LOCATION OF EQUIPMENT/PROCESS	
PREMISES NAME:	Joseph Smith and Sons, Inc.
PREMISES ADDRESS:	1511 S Street, Capitol Heights, MD, 20743
CONTACT INFORMATION FOR THIS PERMIT APPLICATION	
CONTACT NAME:	Paul Tharp
JOB TITLE:	Information Officer
PHONE NUMBER:	301-651-3904
EMAIL ADDRESS:	PTharp@jsmith-sons.com
DESCRIPTION OF EQUIPMENT OR PROCESS	
Joseph Smith & Sons is a scrap metal processing/recycling facility. All equipment is used in the scrap process.	

Application is hereby made to the Department of the Environment for a Permit to Construct for the following equipment or process as required by the State of Maryland Air Quality Regulation, COMAR 26.11.02.09.

Check each item that you have submitted as part of your application package.

☒ Application package cover letter describing the proposed project

☒ Complete application forms (Note the number of forms included or NA if not applicable.)

No. 6 Form 5
No. N/A Form 5T
No. 11 Form 5EP
No. N/A Form 6
No. N/A Form 10
No. N/A Form 11
No. N/A Form 41
No. N/A Form 42
No. N/A Form 44

☐ Vendor/manufacturer specifications/guarantees

☐ Evidence of Workman's Compensation Insurance

☒ Process flow diagrams with emission points

☐ Site plan including the location of the proposed source and property boundary

☒ Material balance data and all emissions calculations

☐ Material Safety Data Sheets (MSDS) or equivalent information for materials processed and manufactured.

☐ Certificate of Public Convenience and Necessity (CPCN) waiver documentation from the Public Service Commission (1)

☐ Documentation that the proposed installation complies with local zoning and land use requirements (2)

(1) Required for emergency and non-emergency generators installed on or after October 1, 2001 and rated at 2001 kW or more.

(2) Required for applications subject to Expanded Public Participation Requirements.

Screening Process

MARYLAND DEPARTMENT OF THE ENVIRONMENT

1800 Washington Blvd ▪ Baltimore, Maryland 21230
(410) 537-3230 ▪1-800-633-6101 ▪ www.mde.state.md.us

Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

1511 S Street
Street Address

Capitol Heights | MD | 20743
City | State | Zip

Telephone Number

(301) 773-1266

Signature

Print Name and Title | Date

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER
County No. (1-2) | Premises No. (3-6)
Registration Class (7) | Equipment No. (8-11)
Data Year (12-13) | Application Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town | State | Zip | ( ) Telephone Number

Premises Name (If different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			1012
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Screening Operations. Aggregate Equipment Inc. is the manufacturer of the Bivi-Tec units. The manufacturer of the Trommels is US Conveyor Technologies The maximum hourly rate for small units is conservatively estimated at 30 tons/hr. The maximum hourly rate for large units is conservatively estimated at 40 tons/hr.

5. Workmen's Compensation Coverage 3998666RT (Binder/Policy Number) 10/15/2018 (Expiration Date)

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 0

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles. Bivi-tec units are used to separate problematic metal materials that pose a clogging risk. Trommels consist of a perforated rotating drum used to rotate solid material through a series of screens, separating the material based on sizes. Four (4) large Bivi-tecs, two (2) large Trommels, two (2) small Bivi-tecs, and two (2) small Trommels are incorporated in the Screening Operations. See figure 4a and 4b for process flow diagrams.

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other [ ] Describe

24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
46-52	53-55	56-58	59-63	64-65

OTHER FUELS [ ] 66-1 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

OTHER FUEL [ ] 66-2 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
X				24	7	365
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
X	25	25	25	25	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] (85)

Only fugitive emissions emitted, therefore no stack information

If not, then

Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ]	[ ][ ][ ]
86-88	89-91	92-95	96-98

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

		INPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

		OUTPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

		OUTPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Emissions vary based on where equipment is located; worst case emissions are presented for the entire process line.

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
1 9. 0	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	6. 3 9
150-154	155-159	160-164

Method Used to Determine Emissions **(1= Estimate 2= Emission Factor 3= Stack Test 4= Other)**

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238) **Action** (239) A: Add C: Change

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by Large Bivi-tec units. See Figure 4a.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by large Bivi-tec units. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

- ☒ None
- ☐ Baghouse No. _____
- ☐ Cyclone No. _____
- ☐ Elec. Precipitator (ESP) No. _____
- ☐ Dust Suppression System No. _____
- ☐ Venturi Scrubber No. _____
- ☐ Spray Tower/Packed Bed No. _____
- ☐ Carbon Adsorber No. _____
  - ☐ Cartridge/Canister
  - ☐ Regenerative
- ☐ Thermal Oxidizer No. _____
  - ☐ Regenerative
- ☐ Catalytic Oxidizer No. _____
- ☐ Nitrogen Oxides Reduction No. _____
  - ☐ Selective ☐ Non-Selective
  - ☐ Catalytic ☐ Non-Catalytic
- ☐ Other No. _____
  Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.030	0.030	0.710	0.130
Particulate Matter (filterable as PM2.5)	0.002	0.002	0.048	0.009
Particulate Matter (condensables)	0.088	0.088	2.11	0.385
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by the large trommel associated with the screening operations. See Figure 4a.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by the large trommel unit. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
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Particulate Matter (filterable as PM2.5)	0.002	0.002	0.048	0.009
Particulate Matter (condensables)	0.088	0.088	2.11	0.385
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by small Bivi-tec units. See Figure 4a.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by small Bivi-tec units. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.022	0.022	0.533	0.097
Particulate Matter (filterable as PM2.5)	0.002	0.002	0.036	0.007
Particulate Matter (condensables)	0.066	0.066	1.58	0.289
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by the small trommel used as part of the screening operations. See Figure 4b.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by the small trommel unit. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)
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Particulate Matter (condensables)	0.066	0.066	1.58	0.289
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0

Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0

List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)

(Attach additional sheets as necessary.)

Aluminum Process

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APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

1511 S Street
Street Address

Capitol Heights	MD	20743
City	State	Zip

Telephone Number

(301) 773-1266

Signature

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER

County No. (1-2) Premises No. (3-6)

Registration Class (7) Equipment No. (8-11)

Data Year (12-13) Application Date

Print Name and Title Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town State Zip ( ) Telephone Number

Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			1012
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Aluminum separating process. The manufacturer of the Trommels is US Conveyor Technologies. The maximum hourly rate for small units is conservatively estimated at 30 tph.

5. Workmen's Compensation Coverage 3998666RT 10/15/2018
Binder/Policy Number Expiration Date

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 1

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles. Each Trommel consists of a perforated rotating drum used to rotate solid material through a series of screens, separating the material based on sizes ranging from 3.5 inches to 1.5 inches. One (1) small Trommel is involved in the Aluminum Process (see Figure 12).

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other [ ] Describe 24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
[ ][ ][ ][ ][ ][ ]	[ ][ ]	[ ]	[ ][ ][ ][ ][ ][ ][ ]	[ ][ ][ ][ ]	[ ]
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
[ ][ ][ ][ ][ ][ ][ ]	[ ][ ]	[ ][ ]	[ ][ ][ ][ ][ ]	[ ][ ]
46-52	53-55	56-58	59-63	64-65

OTHER FUELS [ ] 66-1 (Specify Type) ANNUAL AMOUNT CONSUMED (Specify Units of Measure)

OTHER FUEL [ ] 66-2 (Specify Type) ANNUAL AMOUNT CONSUMED (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
[X]	[ ]	[ ][ ]	[ ]	[2][4]	[7]	[3][6][5]
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
[X]	[2][5]	[2][5]	[2][5]	[2][5]	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] (85)

Only fugitive emissions emitted, therefore no stack information

If not, then	Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ]	[ ][ ][ ]
	86-88	89-91	92-95	96-98

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

			INPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	30	tons/hr	262,800	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	30	tons/hr	262,800	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Emissions vary based on where equipment is located; worst case emissions for aluminum process presented.

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
2 1 6	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	5 1. 8
150-154	155-159	160-164

Method Used to Determine Emissions (1= Estimate 2= Emission Factor 3= Stack Test 4= Other)

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238)

Action (239) A: Add C: Change

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by the small trommel involved in aluminum processing. See Figure 12.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions is the max generated by the small trommel involved in aluminum processing.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	At Projected Operations (lb/day)	At Projected Operations (ton/yr)
Particulate Matter (filterable as PM10)	2.16	2.16	51.8	9.46
Particulate Matter (filterable as PM2.5)	2.16	2.16	51.8	9.46
Particulate Matter (condensables)	9.00	9.00	216.0	39.4
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations (lb/hr)**	**At Projected Operations (lb/day)**	**At Projected Operations (ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations (lb/hr)**	**At Projected Operations (lb/day)**	**At Projected Operations (ton/yr)**

(Attach additional sheets as necessary.)

6050 Mill Process

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

2001 Kenilworth Avenue
Street Address

Capitol Heights	MD	20743
City	State	Zip

Telephone Number

(301) 773-1266

Signature

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER

County No. (1-2) | Premises No. (3-6)
Registration Class (7) | Equipment No. (8-11)
Data Year (12-13) | Application Date

Print Name and Title — Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town — State — Zip — ( ) Telephone Number

Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			0 8 1 4
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

The 6050 Hammermill is used to grind and reduce a wide range of metal materials to uniform sizes. The manufacturer of the Hammermill is US American Pulverizer and the maximum hourly rate is conservatively estimated at 20 tons/hr.

5. Workmen's Compensation Coverage 3998666RT — 10/15/2018
Binder/Policy Number — Expiration Date

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 0

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles.

Please refer to Figure 17 for a process flow diagram of the 6050 Hammermill operations.

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other [ ] Describe 24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
46-52	53-55	56-58	59-63	64-65

OTHER FUELS [ ] 66-1 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

OTHER FUEL [ ] 66-2 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
X				24	7	365
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
X	25	25	25	25	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] (85)

Only fugitive emissions emitted, therefore no stack information

If not, then	Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
	[ ][ ][ ] (86-88)	[ ][ ][ ] (89-91)	[ ][ ][ ][ ] (92-95)	[ ][ ][ ] (96-98)

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

			INPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	20	tons/hr	175,200	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	20	tons/hr	175,200	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
6.58	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	2.41
150-154	155-159	160-164

Method Used to Determine Emissions **(1= Estimate 2= Emission Factor 3= Stack Test 4= Other)**

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238) **Action** (239) A: Add C: Change

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by 6050 Hammermill. See Figure 17

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions represent the max potential PM fugitive emissions generated by the 6050 Hammermill.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.100	0.100	2.41	0.440
Particulate Matter (filterable as PM2.5)	0.100	0.100	2.41	0.440
Particulate Matter (condensables)	0.274	0.274	6.58	1.20
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

Water Media Process

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

1511 S Street
Street Address

Capitol Heights | MD | 20743
City | State | Zip

Telephone Number

(301) 773-1266

Signature

Print Name and Title | Date

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER
County No. (1-2) | Premises No. (3-6)
Registration Class (7) | Equipment No. (8-11)
Data Year (12-13) | Application Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town | State | Zip | ( ) Telephone Number

Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			0 1 1 5
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Water media separation process. The maximum hourly rate of the Super Screens is conservatively estimated at 40 tons/hr.

5. Workmen's Compensation Coverage 3998666RT (Binder/Policy Number) 10/15/2018 (Expiration Date)

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 2

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles. The Super Screen is used to separate non-ferrous material. There are two (2) Super Screens used on-site associated with the water media separation process. Please refer to Figure 19 for the process flow diagrams.

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other

[ ] Describe

24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
46-52	53-55	56-58	59-63	64-65

OTHER FUELS [ ] 66-1 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

OTHER FUEL [ ] 66-2 ANNUAL AMOUNT CONSUMED

(Specify Type) (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
X				24	7	365
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
X	25	25	25	25	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] (85)

Only fugitive emissions emitted, therefore no stack information

If not, then	Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
	[ ][ ][ ] (86-88)	[ ][ ][ ] (89-91)	[ ][ ][ ][ ] (92-95)	[ ][ ][ ] (96-98)

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

NAME	CAS NO. (IF APPLICABLE)	INPUT RATE PER HOUR	UNITS	PER YEAR	UNITS
1. Non-farrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

NAME	CAS NO. (IF APPLICABLE)	OUTPUT RATE PER HOUR	UNITS	PER YEAR	UNITS
1. Non-farrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

NAME	CAS NO. (IF APPLICABLE)	OUTPUT RATE PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

These are the emissions for both Super Screens

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
5 7 6	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	1 3 8. 2
150-154	155-159	160-164

Method Used to Determine Emissions (1= Estimate 2= Emission Factor 3= Stack Test 4= Other)

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238) **Action** (239) A: Add C: Change

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by super screens. See Figure 19.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by super screen units. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	2.88	2.88	69.1	12.6
Particulate Matter (filterable as PM2.5)	2.88	2.88	69.1	12.6
Particulate Matter (condensables)	12.0	12.0	288.0	52.6
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

Ball Mill Process

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

1511 S Street
Street Address

Capitol Heights | MD | 20743
City | State | Zip

Telephone Number

(301) 773-1266

Signature

Print Name and Title | Date

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER

County No. (1-2) | Premises No. (3-6)
Registration Class (7) | Equipment No. (8-11)
Data Year (12-13) | Application Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town | State | Zip | ( ) Telephone Number

Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			1012
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Ball Mill separation process. The manufacturer of the Trommels is US Conveyor Technologies. The maximum hourly rate for large units is conservatively estimated at 40 tph. The maximum hourly rate of the Super Screen is estimated at 40 tph.

5. Workmen's Compensation Coverage 3998666RT (Binder/Policy Number) 10/15/2018 (Expiration Date)

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 0

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles. Each Trommel consists of a perforated rotating drum used to rotate solid material through a series of screens, separating the material based on sizes ranging from 3.5 inches to 1.5 inches. One (1) large Trommel is involved in the Ball Mill Process. The Super Screen is used to separate non-ferrous material. One (1) Super Screen is involved in the Ball Mill Process. Please refer to Figure 20 for process flow diagrams.

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other [ ] Describe 24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
[ ][ ][ ][ ][ ][ ]	[ ][ ]	[ ]	[ ][ ][ ][ ][ ][ ][ ]	[ ][ ][ ][ ]	[ ]
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
[ ][ ][ ][ ][ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ][ ]	[ ][ ]
46-52	53-55	56-58	59-63	64-65

OTHER FUELS (Specify Type) [ ] 66-1 ANNUAL AMOUNT CONSUMED (Specify Units of Measure)

OTHER FUEL (Specify Type) [ ] 66-2 ANNUAL AMOUNT CONSUMED (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
[X]	[ ]	[ ][ ]	[ ]	[2][4]	[7]	[3][6][5]
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
[X]	[2][5]	[2][5]	[2][5]	[2][5]	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] 85

Only fugitive emissions emitted, therefore no stack information

If not, then	Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
	[ ][ ][ ] 86-88	[ ][ ][ ] 89-91	[ ][ ][ ][ ] 92-95	[ ][ ][ ] 96-98

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

		INPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

		OUTPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

		OUTPUT RATE			
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Emissions vary based on where equipment is located; worst case emissions for ball mill process is presented.

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
2 9 1. 5	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	7 2. 2
150-154	155-159	160-164

Method Used to Determine Emissions **(1= Estimate 2= Emission Factor 3= Stack Test 4= Other)**

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238)

Action (239) A: Add C: Change

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by the large trommel in the ball mill process. See Figure 20.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions is the max generated by large trommel involved in the ball mill process.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.088	0.088	2.11	0.385
Particulate Matter (filterable as PM2.5)	0.088	0.088	2.11	0.385
Particulate Matter (condensables)	0.144	0.144	3.46	0.631
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by the super screen. See Figure 20.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by the super screen unit. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	2.88	2.88	69.1	12.6
Particulate Matter (filterable as PM2.5)	2.88	2.88	69.1	12.6
Particulate Matter (condensables)	12.0	12.0	288.0	52.6
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0

Greenhouse Gases (GHG)	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0

List individual federal Hazardous Air Pollutants (HAP) below:	At Design Capacity (lb/hr)	At Projected Operations (lb/hr)	(lb/day)	(ton/yr)

(Attach additional sheets as necessary.)

Spare Equipment

MARYLAND DEPARTMENT OF THE ENVIRONMENT

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Air and Radiation Management Administration ▪ Air Quality Permits Program

APPLICATION FOR PROCESSING/MANUFACTURING EQUIPMENT

Permit to Construct ☒ Registration Update ☐ Initial Registration ☐

1A. Owner of Equipment/Company Name

Joseph Smith & Sons, Inc.

Mailing Address

1511 S Street
Street Address

Capitol Heights	MD	20743
City	State	Zip

Telephone Number

(301) 773-1266

Signature

DO NOT WRITE IN THIS BLOCK
2. REGISTRATION NUMBER

County No. (1-2) Premises No. (3-6)

Registration Class (7) Equipment No. (8-11)

Data Year (12-13) Application Date

Print Name and Title Date

1B. Equipment Location and Telephone Number (if different from above)

Same as above
Street Number and Street Name

City/Town State Zip ( ) Telephone Number

Premises Name (if different from above)

3. Status (A= New, B= Modification to Existing Equipment, C= Existing Equipment)

Status	New Construction Begun (MM/YY)	New Construction Completed (MM/YY)	Existing Initial Operation (MM/YY)
C			1012
15	16-19	20-23	20-23

4. Describe this Equipment: Make, Model, Features, Manufacturer (include Maximum Hourly Input Rate, etc.)

Spare Units. Aggregate Equipment Inc. is the manufacturer of the Bivi-Tec units. The manufacturer of the Trommels is US Conveyor Technologies. The maximum hourly rate for both units is conservatively estimated at 40 tph.

5. Workmen's Compensation Coverage 3998666RT 10/15/2018
Binder/Policy Number Expiration Date

Company Chesapeake Employers Insurance Co

NOTE: Before a Permit to Construct may be issued by the Department, the applicant must provide the Department with proof of worker's compensation coverage as required under Section 1-202 of the Worker's Compensation Act.

6A. Number of Pieces of Identical Equipment Units to be Registered/Permitted at this Time 0

6B. Number of Stack/Emission Points Associated with this Equipment Fugitive Emissions

7. Person Installing this Equipment (if different from Number 1 on Page 1)

Name Same as above Title

Company

Mailing Address/Street

City/Town State Telephone ( )

8. Major Activity, Product or Service of Company at this Location

The major products processed at this scrap material facility are sheet metal, auto parts, and automobiles.

The Bivi-tec units are used to separate problematic metal materials that pose a clogging risk. One (1) large Bivi-tec is a spare unit currently located with the Screening Operations. Each Trommel consists of a perforated rotating drum used to rotate solid material through a series of screens, separating the material based on sizes ranging from 3.5 inches to 1.5 inches. One (1) large Trommel unit is a spare unit currently located at the Screening Operations.

9. Control Devices Associated with this Equipment

None [X] 24-0

Simple/Multiple Cyclone	Spray/Adsorb Tower	Venturi Scrubber	Carbon Adsorber	Electrostatic Precipitator	Baghouse	Thermal/Catalytic Afterburner	Dry Scrubber
[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24-1	24-2	24-3	24-4	24-5	24-6	24-7	24-8

Other [ ] Describe 24-9

10. Annual Fuel Consumption for this Equipment

N/A - electrically powered

OIL-1000 GALLONS	SULFUR %	GRADE	NATURAL GAS-1000 FT^3	LP GAS-100 GALLONS	GRADE
[ ][ ][ ][ ][ ][ ]	[ ][ ]	[ ]	[ ][ ][ ][ ][ ][ ][ ]	[ ][ ][ ][ ]	[ ]
26-31	32-33	34	35-41	42-45	

COAL- TONS	SULFUR %	ASH%	WOOD-TONS	MOISTURE %
[ ][ ][ ][ ][ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ][ ]	[ ][ ]
46-52	53-55	56-58	59-63	64-65

OTHER FUELS [ ] ANNUAL AMOUNT CONSUMED

(Specify Type) 66-1 (Specify Units of Measure)

OTHER FUEL [ ] ANNUAL AMOUNT CONSUMED

(Specify Type) 66-2 (Specify Units of Measure)

1= Coke 2= COG 3=BFG 4=Other

11. Operating Schedule (for this Equipment)

Continuous Operation	Batch Process	Hours per Batch	Batch per Week	Hours per Day	Days Per Week	Days per Year
[X]	[ ]	[ ][ ]	[ ]	[2][4]	[7]	[3][6][5]
67-1	67-2	68-69		70-71	72	73-75

Seasonal Variation in Operation:

No Variation	Winter Percent	Spring Percent	Summer Percent	Fall Percent	(Total Seasons= 100%)
[X]	[2][5]	[2][5]	[2][5]	[2][5]	
76	77-78	79-80	81-82	83-84	

12. Equivalent Stack Innformation- is Exhaust through Doors, Windows, etc. Only? (Y/N) [Y] (85)

Only fugitive emissions emitted, therefore no stack information

If not, then	Height Avove Ground (FT)	Inside Diameter at Top	Exit Temperature (°F)	Exit Velocity (FT/SEC)
	[ ][ ][ ] (86-88)	[ ][ ][ ] (89-91)	[ ][ ][ ][ ] (92-95)	[ ][ ][ ] (96-98)

NOTE:
Attach a block diagram of process/process line, indicating new equipment as reported on this form and all existing equipment, including control devices and emission points.

13. Input Materials (for this equipment only)
Is any of this data to be considered confidential? [N] (Y or N)

			INPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

14. Output Materials (for this equipment)
Process/Product Stream

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. Non-ferrous scrap	N/A	40	tons/hr	350,400	tons/yr
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

15. Waste Streams- Solid and Liquid

			OUTPUT RATE		
NAME	CAS NO. (IF APPLICABLE)	PER HOUR	UNITS	PER YEAR	UNITS
1. None	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
TOTAL					

16. Total Stack Emissions (for this equipment only) in Pounds Per Operating Day

Emissions vary based on where equipment is located; worst case emissions are presented for both units combined.

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
N A	N A	N A
99-104	105-110	111-116

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	N A
177-122	123-128	129-134

17. Total Fugitive Emissions (for this equipment only) in Pounds Per Operating Day

Particulate Matter	Oxides of Sulfur	Oxides of Nitrogen
4. 2 2	N A	N A
135-139	140-144	145-149

Carbon Monoxide	Volatile Organic Compounds	PM-10
N A	N A	1. 4 2
150-154	155-159	160-164

Method Used to Determine Emissions (1= Estimate 2= Emission Factor 3= Stack Test 4= Other)

TSP	SOX	NOX	CO	VOC	PM10
2	NA	NA	NA	NA	2
165	166	167	168	169	170

AIR AND RADIATION MANAGEMENT ADMINISTRATION USE ONLY

18. Date Rec'd. Local _____ **Date Rec'd. State** _____ **Return to Local Jurisdiction** Date_____ By_____

Reviewed by Local Jurisdiction Date_____ By_____ **Reviewed by State** Date_____ By_____

19. Inventory Date **Month/Year** (171-174) **Equipment Code** (175-177) **SCC Code** (178-185)

20. Annual Operating Rate (186-192) **Maximum Design Hourly Rate** (193-199) **Permit to Operate Month** (200-201) **Transaction Date (MM/DD/YR)** (202-207)

Staff Code (208-210) **VOC Code** (211 212) **SIP Code** (213 214) **Regulation Code** (215-218) **Confidentiality** (219)

Point Description (220-238) **Action** (239) A: Add C: Change

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Air and Radiation Management Administration • Air Quality Permits Program
1800 Washington Boulevard • Baltimore, Maryland 21230
(410)537-3225 • 1-800-633-6101• www.mde.maryland.gov

FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by a large Bivi-tec unit. This unit is spare equipment and moves into various lines as needed.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions generated by a large Bivi-tec unit. Emissions presented represent the max PM per unit.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.030	0.030	0.710	0.130
Particulate Matter (filterable as PM2.5)	0.002	0.002	0.048	0.009
Particulate Matter (condensables)	0.088	0.088	2.11	0.385
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

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FORM 5EP: Emission Point Data

Complete one (1) Form 5EP for EACH emission point (stack or fugitive emissions) related to the proposed installation.

Applicant Name: Joseph Smith & Sons, Inc.

1. Emission Point Identification Name/Number

List the applicant assigned name/number for this emission point and use this value on the attached required plot plan:
Fugitive Emissions generated by a large trommel. This unit is spare equipment and moves into various lines as needed.

2. Emission Point Description

Describe the emission point including all associated equipment and control devices:
Fugitive particulate matter (PM) emissions is the max generated by a large trommel.

3. Emissions Schedule for the Emission Point

Continuous or Intermittent (C/I)?	C	**Seasonal Variation** Check box if none: ☒ Otherwise estimate seasonal variation:	
Minutes per hour:	60	Winter Percent	
Hours per day:	24	Spring Percent	
Days per week:	7	Summer Percent	
Weeks per year:	52	Fall Percent	

4. Emission Point Information

Height above ground (ft):		Length and width dimensions at top of rectangular stack (ft):	Length:	Width:	
Height above structures (ft):					
Exit temperature (°F):		Inside diameter at top of round stack (ft):			
Exit velocity (ft/min):		Distance from emission point to nearest property line (ft):			
Exhaust gas volumetric flow rate (acfm):		Building dimensions if emission point is located on building (ft)	Height	Length	Width

5. Control Devices Associated with the Emission Point

Identify each control device associated with the emission point and indicate the number of devices. ***A Form 6 is also required for each control device***. If none check none:

☒ None

☐ Baghouse No. _____

☐ Cyclone No. _____

☐ Elec. Precipitator (ESP) No. _____

☐ Dust Suppression System No. _____

☐ Venturi Scrubber No. _____

☐ Spray Tower/Packed Bed No. _____

☐ Carbon Adsorber No. _____

- ☐ Cartridge/Canister
- ☐ Regenerative

☐ Thermal Oxidizer No. _____

- ☐ Regenerative

☐ Catalytic Oxidizer No. _____

☐ Nitrogen Oxides Reduction No. _____

- ☐ Selective ☐ Non-Selective
- ☐ Catalytic ☐ Non-Catalytic

☐ Other No. _____
Specify:

FORM 5EP: Emission Point Data

6. Estimated Emissions from the Emission Point

Criteria Pollutants	At Design Capacity (lb/hr)	At Projected Operations		
		(lb/hr)	(lb/day)	(ton/yr)
Particulate Matter (filterable as PM10)	0.088	0.088	2.11	0.385
Particulate Matter (filterable as PM2.5)	0.088	0.088	2.11	0.385
Particulate Matter (condensables)	0.144	0.144	3.46	0.631
Volatile Organic Compounds (VOC)	0	0	0	0
Oxides of Sulfur (SOx)	0	0	0	0
Oxides of Nitrogen (NOx)	0	0	0	0
Carbon Monoxide (CO)	0	0	0	0
Lead (Pb)	0	0	0	0
Greenhouse Gases (GHG)	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**
Carbon Dioxide (CO_2)	0	0	0	0
Methane (CH_4)	0	0	0	0
Nitrous Oxide (N_2O)	0	0	0	0
Hydrofluorocarbons (HFCs)	0	0	0	0
Perfluorocarbons (PFCs)	0	0	0	0
Sulfur Hexafluoride (SF6)	0	0	0	0
Total GHG (as CO_2e)	0	0	0	0
List individual federal Hazardous Air Pollutants (HAP) below:	**At Design Capacity (lb/hr)**	**At Projected Operations**		
		(lb/hr)	**(lb/day)**	**(ton/yr)**

(Attach additional sheets as necessary.)

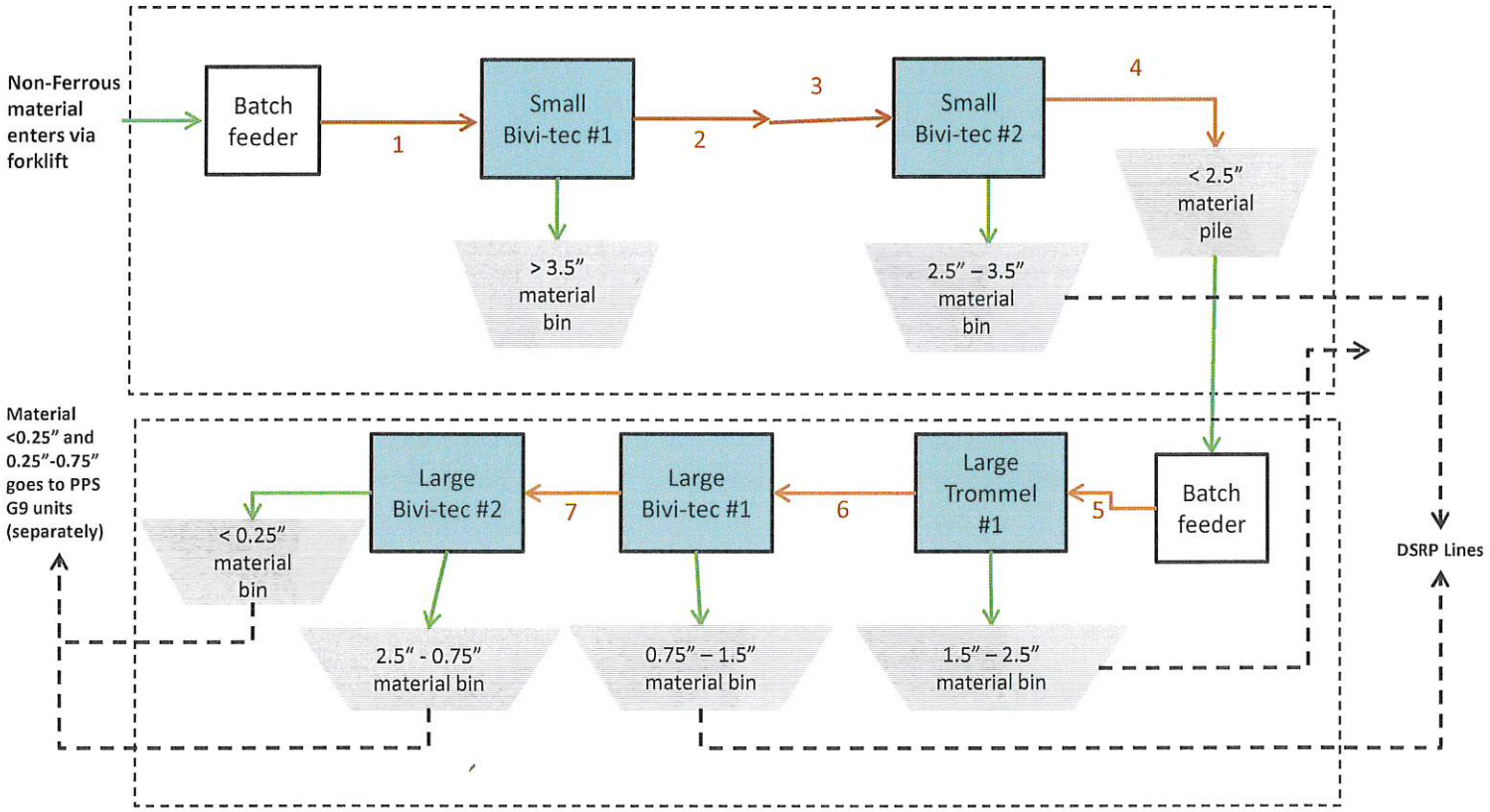
Appendix A
Process Flow Diagrams

Appendix A - Non-Ferrous Processing Equipment > 5 tons per Hour Throughput

Equipment Description					Max Throughput	
Unit	Figure	Location	Manufacturer	Model	(tons/hr)[1]	(tons/yr)[2]
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	30	262,800
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	30	262,800
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	40	350,400
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	40	350,400
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	30	262,800
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	30	262,800
Small Trommel [4]	Figure 12	Aluminum Processing	US Conveyor Technologies	N/A	30	262,800
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	40	350,400
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	40	350,400
Super Screen [4]	Figure 20	Ball Mill Process	Super Screen	N/A	40	350,400
Large Trommel [5]	Figure 20	Ball Mill Process	US Conveyor Technologies	N/A	40	350,400
Large Bivi-tec [3]	None	Various Lines (Spare)	AEI-Aggregate Equipment Inc	96" model	40	350,400
Large Trommel [3]	None	Various Lines (Spare)	US Conveyor Technologies	N/A	40	350,400
6050 Hammermill [6]	Figure 17	6050 Mill Process	American Pulverizer	N/A	20	175,200

Blue shading indicates equipment (e.g., crushers, hammermills, shredders, grinders, or classifying screens) with greater than 5 tons per hour throughput

Figure 4a - Process Flow Diagram for Screening Operations
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland



Notes
1. All operations within dotted line considered one process.
2. All end points go to further processing stages (DSRP lines or G9 process).
3. There are 2 identical processes with regards to the smaller screening operations.
4. One additional spare Large Bivi-tec and Large Trommel not pictured located in area not currently in operation.

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

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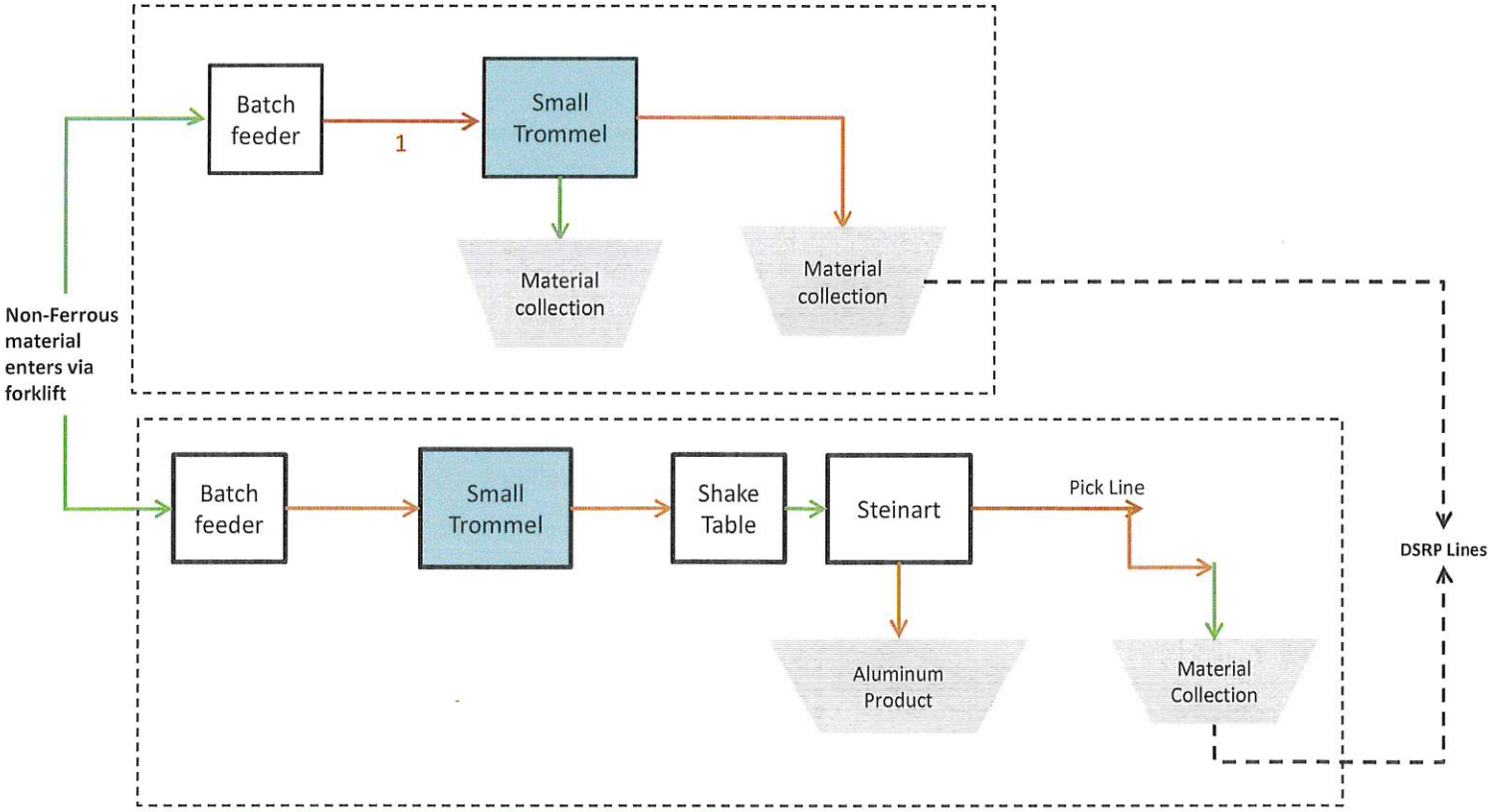
Figure 4b - Process Flow Diagram for Screening Operations
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland



Notes
1. All operations within dotted line considered one process.
2. All end points go to further processing stages (DSRP lines or G9 process).

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

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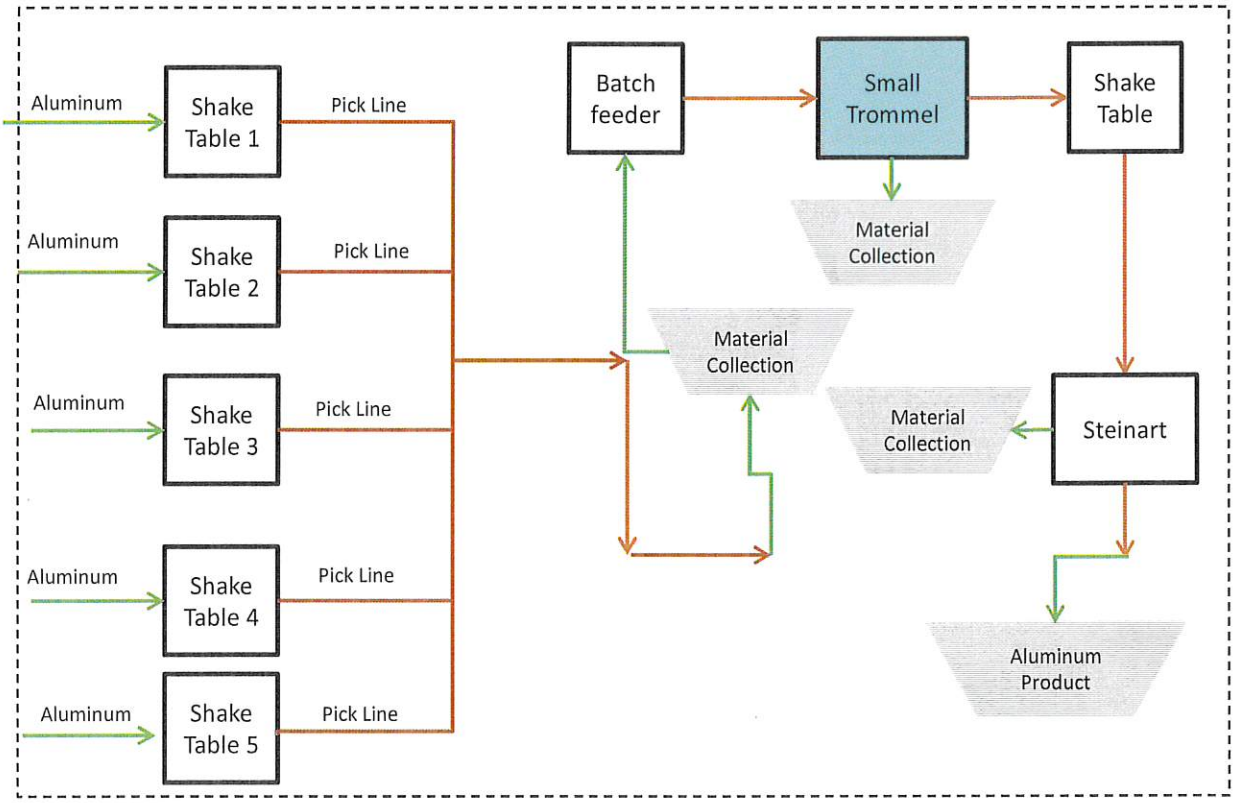
Figure 12 - Process Flow Diagram for Aluminum Processing
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland



Notes
1. All operations within dotted line considered one process.
2. Input aluminum are from all Eddy Current Separation (VIS or Steinert) collection points throughout processing.

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

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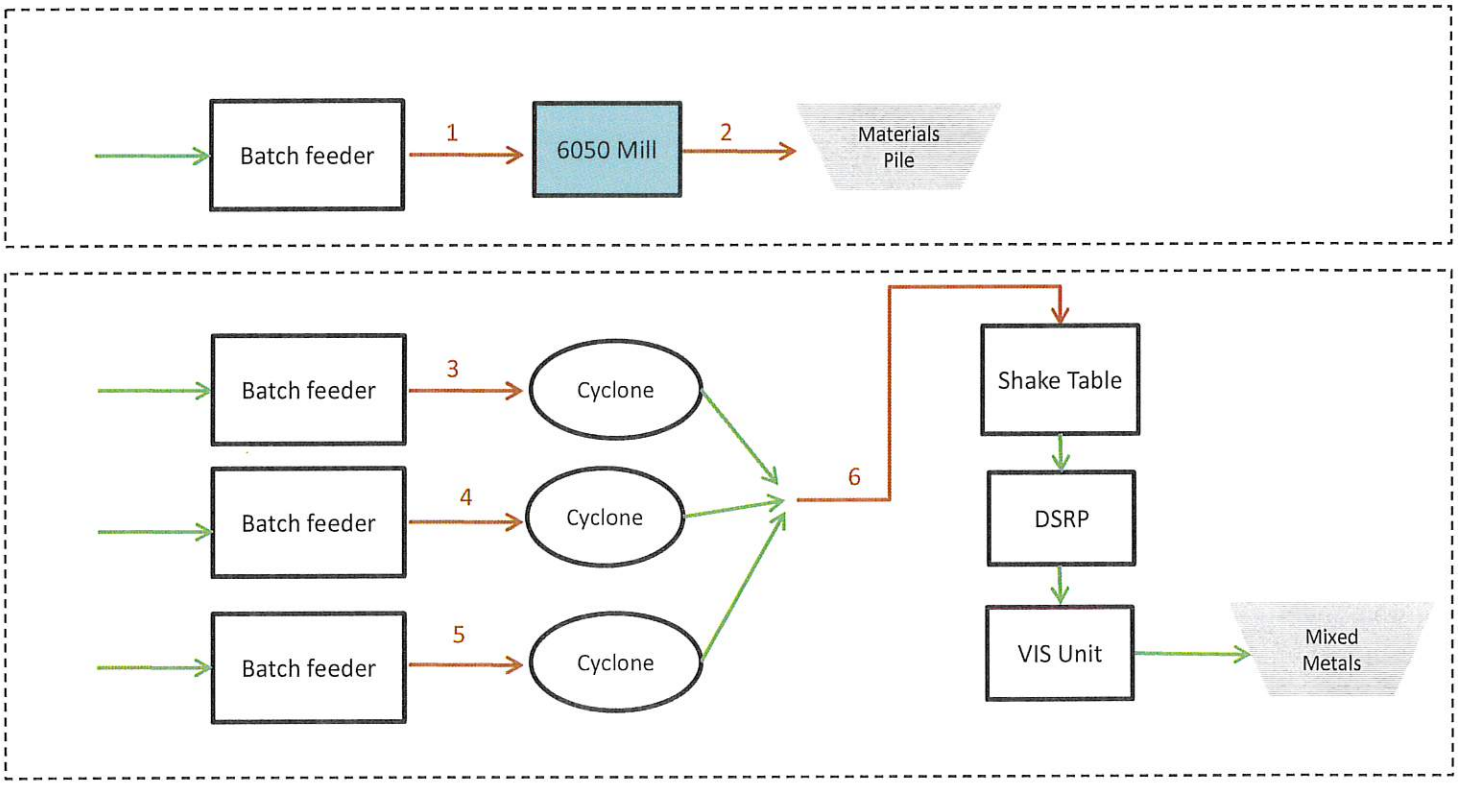
Figure 17 - Process Flow Diagram for the 6050 Mill & 6050 Cyclone Processes
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland



Notes
1. All operations within dotted line considered one process.

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

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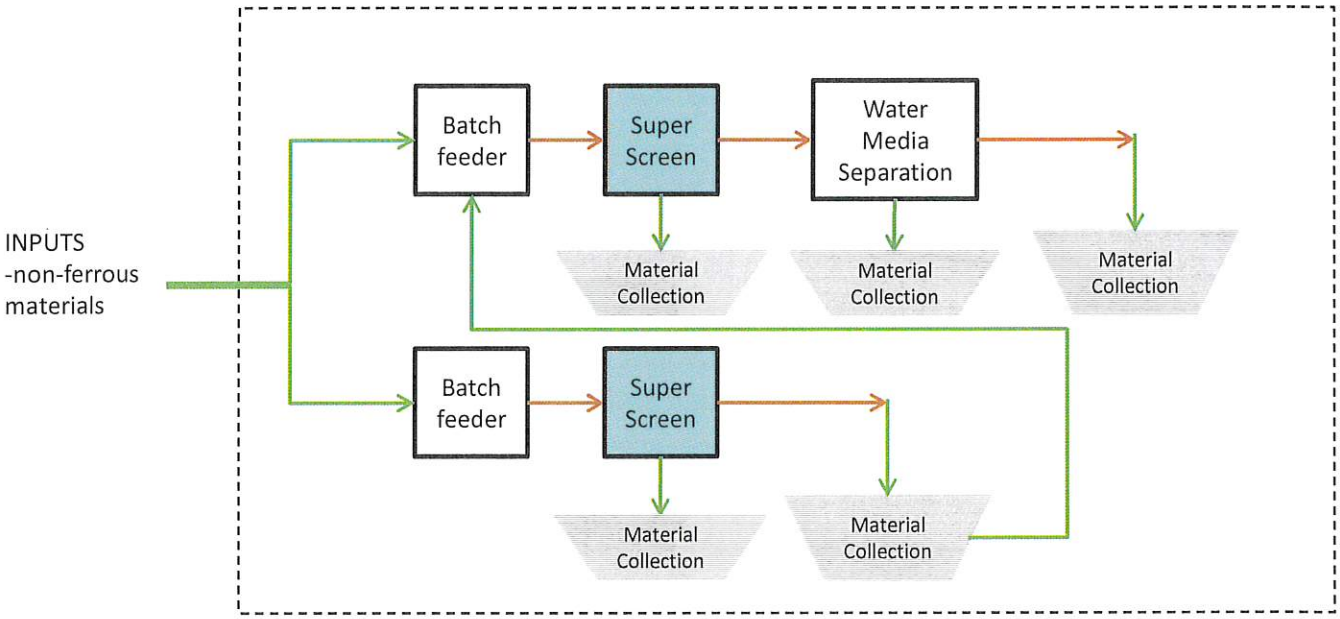
Figure 19 - Process Flow Diagram for Water Media Separation
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland

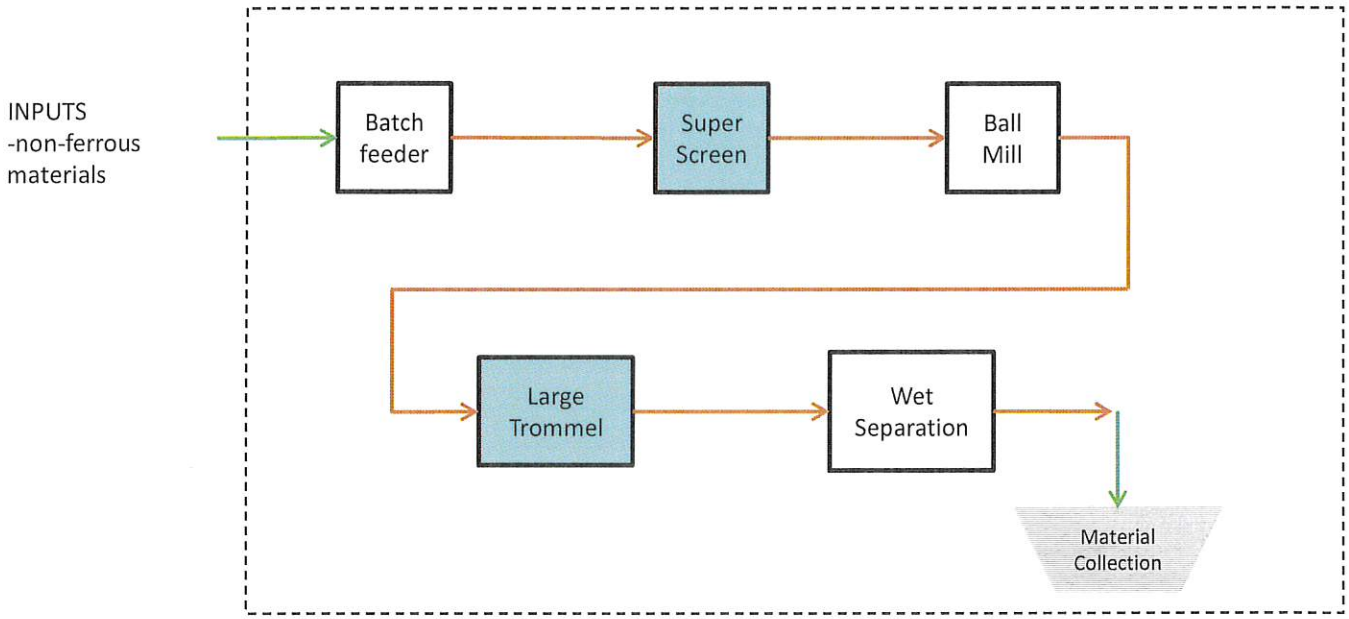


Notes

1. All operations within dotted line considered one process.
2. In-put material is saturated after the Super Screen operations., all emissions are considered uncontrolled prior to this saturation.

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

Figure 20 - Process Flow Diagram for Ball Mill Process
Joseph Smith & Sons, Inc.
Capitol Heights, Maryland



Notes

1. All operations within dotted line considered one process.
2. In-put material is saturated after the Super Screen operations., all emissions are considered uncontrolled prior to this saturation.

Key
Black = Equipment
Orange = Conveyor
Green = Drop
Grey = Collection

Appendix B
Potential to Emit Calculations

Appendix B - Potential-to-Emit Calculations (2018)

Table 1. Fugitive Emissions Equipment Greater than or Equal to 5 Tons Per Hour
Joseph Smith & Sons Scrap Metal Processing
1511 S Street
Capitol Heights, Maryland

Equipment Description					Max Throughput		PM	PM10	PM2.5
Unit	Figure	Location	Manufacturer	Model	(tons/hr)[1]	(tons/yr)[2]	Emission Factors (lb/ton)		
Screening									
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	30	262,800	2.20E-03	7.40E-04	5.00E-05
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	30	262,800	2.20E-03	7.40E-04	5.00E-05
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	40	350,400	2.20E-03	7.40E-04	5.00E-05
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	30	262,800	2.20E-03	7.40E-04	5.00E-05
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	30	262,800	2.20E-03	7.40E-04	5.00E-05
Small Trommel [4]	Figure 12	Aluminum Processing	US Conveyor Technologies	N/A	30	262,800	3.00E-01	7.20E-02	7.20E-02
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	40	350,400	3.00E-01	7.20E-02	7.20E-02
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	40	350,400	3.00E-01	7.20E-02	7.20E-02
Super Screen [4]	Figure 20	Ball Mill Process	Super Screen	N/A	40	350,400	3.00E-01	7.20E-02	7.20E-02
Large Trommel [5]	Figure 20	Ball Mill Process	US Conveyor Technologies	N/A	40	350,400	3.60E-03	2.20E-03	2.20E-03
Large Bivi-tec [3]	None	Various Lines (Spare)	AEI-Aggregate Equipment Inc	96" model	40	350,400	2.20E-03	7.40E-04	5.00E-05
Large Trommel [3]	None	Various Lines (Spare)	US Conveyor Technologies	N/A	40	350,400	2.20E-03	7.40E-04	5.00E-05
Total Screening Emissions									
Hammermills									
6050 Hammermill [6]	Figure 17	6050 Mill Process	American Pulverizer	N/A	20	175,200	1.37E-02	5.02E-03	5.02E-03
Total Hammermill Emissions									

Total Emissions from Non-Ferrous Processing Equipment Greater Than 5 Tons Per Hour

Notes

[1] Max hourly throughput estimates for each piece of equipment provided by Joseph Smith based on historical operation and scaled up.
Max throughputs may be below maximum rating for emissions calculations based on limiting factor for current process.

[2] Potential emissions based on maximum operating schedule of 24 hours per day, 365 days per year.
Actual operating schedule is 5.5 days per week, 286 days per year.

[3] AP-42 Table 11.19.2-2 Emissions Factor [Screening - Controlled] utilized.
Controlled factors used for processes where PM controls such as saturated materials, located inside buildings, and covers are in place.

[4] AP-42 Table 11.19.2-2 Emissions Factor [Fines Screening - Uncontrolled] utilized; assumed PM10 = PM2.5.

[5] AP-42 Table 11.19.2-2 Emissions Factor [Fines Screening - Controlled] utilized; assumed PM10 = PM2.5

[6] Based on ISRI Title V Applicability Workbook Table D-11.E, emissions test for Z-Box Separator with 80% auto bodies, 20% sheet iron.
For shredding, PM10 emissions based on PM/PM10 ratio of uncontrolled conveyor transfer point.

Appendix B - Potential-to-Emit Calculations (2018)

Table 1. Fugitive Emissions Equipment Greater than or Equal to 5 Tons Per Hour
Joseph Smith & Sons Scrap Metal Processing
1511 S Street
Capitol Heights, Maryland

Equipment Description					PM Potential Emissions			PM-10 Potential Emissions			PM-2.5 Potential Emissions		
Unit	Figure	Location	Manufacturer	Model	(lb/hr)	(lb/day)	(tons/yr)	(lb/hr)	(lb/day)	(tons/yr)	(lb/hr)	(lb/day)	(tons/yr)
Screening													
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	0.066	1.58	0.289	0.022	0.533	0.097	0.002	0.036	0.007
Small Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	74" model	0.066	1.58	0.289	0.022	0.533	0.097	0.002	0.036	0.007
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Bivi-tec [3]	Figure 4a	Screening	AEI-Aggregate Equipment Inc	96" model	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Trommel [3]	Figure 4a	Screening	US Conveyor Technologies	N/A	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	0.066	1.58	0.289	0.022	0.533	0.097	0.002	0.036	0.007
Small Trommel [3]	Figure 4b	Screening	US Conveyor Technologies	N/A	0.066	1.58	0.289	0.022	0.533	0.097	0.002	0.036	0.007
Small Trommel [4]	Figure 12	Aluminum Processing	US Conveyor Technologies	N/A	9.00	216.0	39.4	2.16	51.8	9.46	2.16	51.8	9.46
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	12.0	288.0	52.6	2.88	69.1	12.6	2.88	69.1	12.6
Super Screen [4]	Figure 19	Water Media Separation	Super Screen	N/A	12.0	288.0	52.6	2.88	69.1	12.6	2.88	69.1	12.6
Super Screen [4]	Figure 20	Ball Mill Process	Super Screen	N/A	12.0	288.0	52.6	2.88	69.1	12.6	2.88	69.1	12.6
Large Trommel [5]	Figure 20	Ball Mill Process	US Conveyor Technologies	N/A	0.144	3.46	0.631	0.088	2.11	0.385	0.088	2.11	0.385
Large Bivi-tec [3]	None	Various Lines (Spare)	AEI-Aggregate Equipment Inc	96" model	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Large Trommel [3]	None	Various Lines (Spare)	US Conveyor Technologies	N/A	0.088	2.11	0.385	0.030	0.710	0.130	0.002	0.048	0.009
Total Screening Emissions					**46.11**	**1106.7**	**202.0**	**11.21**	**269.1**	**49.12**	**10.91**	**261.8**	**47.79**
Hammermills													
6050 Hammermill [6]	Figure 17	6050 Mill Process	American Pulverizer	N/A	0.274	6.58	1.20	0.100	2.41	0.440	0.100	2.41	0.440
Total Hammermill Emissions					**0.274**	**6.58**	**1.20**	**0.100**	**2.41**	**0.440**	**0.100**	**2.41**	**0.440**

	PM Potential Emissions			PM-10 Potential Emissions			PM-2.5 Potential Emissions		
	(lb/hr)	(lb/day)	(ton/yr)	(lb/hr)	(lb/day)	(ton/yr)	(lb/hr)	(lb/day)	(ton/yr)
Total Emissions from Non-Ferrous Processing Equipment Greater Than 5 Tons Per Hour	46.39	1,113	203.2	11.31	271.5	49.56	11.01	264.3	48.23

Notes

[1] Max hourly throughput estimates for each piece of equipment provided by Joseph Smith based on historical operation and scaled up.
Max throughputs may be below maximum rating for emissions calculations based on limiting factor for current process.

[2] Potential emissions based on maximum operating schedule of 24 hours per day, 365 days per year.
Actual operating schedule is 5.5 days per week, 286 days per year.

[3] AP-42 Table 11.19.2-2 Emissions Factor [Screening - Controlled] utilized.
Controlled factors used for processes where PM controls such as saturated materials, located inside buildings, and covers are in place.

[4] AP-42 Table 11.19.2-2 Emissions Factor [Fines Screening - Uncontrolled] utilized; assumed PM10 = PM2.5.

[5] AP-42 Table 11.19.2-2 Emissions Factor [Fines Screening - Controlled] utilized; assumed PM10 = PM2.5

[6] Based on ISRI Title V Applicability Workbook Table D-11.F, emissions test for Z-Box Separator with 80% auto bodies, 20% sheet iron.
For shredding, PM10 emissions based on PM/PM10 ratio of uncontrolled conveyor transfer point.